

Section Three Floodplain Management Forum Minutes

Opening Remarks

James L. Witt, Director, Federal Emergency Management Agency

Mr. Witt welcomed attendees, presented the charge for the Forum, and expressed his hopes that invitees would focus on the future of floodplains. The world seems to be experiencing many global climate changes that cause levees to be breached and 14-inch rainfalls in 1 hour; the National Flood Insurance Program (NFIP) must meet these changing conditions.

There are concerns about groundwater contamination, problems with the supply and quality of drinking water, and other safety issues related to development in floodplains and behind levees. The challenge and public responsibility facing us is to address changing weather trends, safety of life and property, and land use issues while preserving the environment for future generations. One of the responsibilities of the NFIP is to provide local officials with the education, information, and enforcement recommendations and documentation for them to make the policy decisions necessary to prevent the destruction of homes, businesses, and public infrastructure.

The discussion was opened for participants to make suggestions directly to Director Witt on methods FEMA could use to improve the NFIP. He specifically requested feedback on:

- Should floodplains be developed? If so, how?
- Is the BFE at the 100-year floodplain an adequate measure of risk?
- Should 1-foot freeboard be required?

Michael Buchert, City of Tulsa, Oklahoma, recommended the following:

- Promote floodplain designation based on full urbanization.
- Preserve natural floodplain storage; where areas are filled, compensatory storage should be developed.
- Establish zero-foot rise off each property, upstream or downstream, with 1-foot freeboard and no detention.
- In Tulsa, mapping is done for drainage areas of up to 40 acres.

Mr. Witt responded that the NFIP regulations do not provide an adequate level of protection. The NFIP regulations do not require freeboard above BFE, nor do the regulations require flood insurance behind levees.

Michael Ellegood, Flood Control District of Maricopa County, Arizona, suggested the following:

- There should be floodplain insurance for everyone who has a mortgage; nationally, 35 percent of all claims are made by people who do not live in a designated floodplain.
- Hazards should be determined not just on the basis of elevation but also on geomorphology and erosion of watercourses.

Larry Larson, Association of State Floodplain Managers, suggested modifications to the previous recommendations:

- Examine all recommendations and program policies and make development decisions on the basis of “no adverse impact” on the floodplain; this concept takes into consideration future conditions.
- Encourage and provide incentives for communities to develop comprehensive community plans so more communities can accomplish what Tulsa has done.

Richard Krimm, Federal Emergency Management Agency, retired, recommended that

- Insurance companies should redline new or rebuilt structures in velocity zones and floodways.
- FEMA should promote setbacks in high-erosion coastal areas.

Mr. Witt responded that a recent study showed that 64 percent of people had no idea how to prevent flooding disasters. In the 1990s, 2.5 million Americans moved into the southern and southeastern United States. This means that many people are moving into high-risk flood and hurricane-risk areas and are unaware of the risks and have no knowledge of prevention.

JoAnn Howard, Federal Emergency Management Agency, added that she believes the national policy needs to move from a loss-prevention focus to beneficial use of the floodplain.

Brett Hulsey, Sierra Club, Midwest Office, pointed out that many FIRMs are based on 50-year-old data. In repetitive-loss situations, updating FIRMs should be a priority and part of the disaster assistance package. He also expressed appreciation for FEMA’s leadership on the U.S. Army Corps of Engineers (USACE) replacement for Nationwide Permit 26.

Mr. Witt responded that in the FY 2001 budget, FEMA has requested, and the House has approved, \$30 million to revise FIRMs after a disaster.

Jon Kusler, Association of State Wetland Managers, expressed his support for Mr. Larson’s position of a no-adverse-impact policy.

Mr. Witt indicated that he also believes there should be no adverse impact on property or the natural resources of the area.

Gilbert F. White, University of Colorado at Boulder, asked *Mr. Witt* about FEMA's involvement with other Federal agencies on development issues as they relate to floodplain management.

Mr. Witt responded that the Environmental Protection Agency (EPA) and USACE are both represented here today and have met together many times on several related issues.

Frank H. Thomas, Mitigation Consultant, expressed concern that the use of Letters of Map Revision (LOMRs), which transfer risk to other parties without compensation, degrades the value of the maps and the mapping program. He suggested that LOMRs be used only for correcting technical errors in the map data.

Doug Plasencia, Kimley-Horn and Associates, stated his support for the no-adverse-impact position and suggested the importance of devolvement of responsibilities to the local level in the long term. This shift should start in the short term with more education to communities. The most important message should be that Federal regulations are not intended to be the recommended standard but rather the minimum threshold to be able to buy federally subsidized flood insurance. To think of the minimum regulations as standards leaves the governing authorities open to liabilities.

Tim Searchinger, Environmental Defense, expressed support for *Dr. White's* concern about Federal integration and cooperation. He recommended coordinated priorities for a national flood management program that reduce flooding damages and enhance the environment. A second area of concern is the crop insurance program, where those who are the most reckless receive the most subsidy.

Sue Cameron, Tillamook County, Oregon, thanked *Mr. Witt* for assistance to the local communities in developing and enforcing local ordinances. She listed some recent accomplishments, including a 3 foot freeboard requirement and a repetitive loss provision.

Mr. Witt shared some innovations used by Project Impact in Tillamook County, including elevating homes and lowering a roadbed for use as a floodway.

John R. Sheaffer, Sheaffer International, L.L.C., stated his support for *Mr. Witt's* sustainability objectives. He stressed that the entire water basin needs to be studied to further understand and manage floodplain issues. He said he supported a policy that private properties and public facilities should be treated equally in responsibility for this management. He further explained that, done correctly, urbanization can be used to decrease runoff.

Ed Copeland, Region II Planning and Development Council (representing the National Association of Developmental Organizations), requested more funding for ongoing educational programs in responsible floodplain management techniques for local leaders and politicians. Changes in planning, ordinances, and financial leverage for mitigation projects can only happen through education.

Mr. Witt agreed and gave an example of how *Project Impact* in Vermont has encouraged communitywide planning.

David R. Conrad, *National Wildlife Federation*, echoed several points made earlier:

- The public education process is working and needs to be bolstered. The public eye has been opened to floodplain management principles, and there is recognition of the natural and beneficial functions of the floodplain.
- NFIP standards need to be modernized; in particular, the components of the CRS need to move into standard practice.
- He supports zero-rise or low-impact floodway standards.

Mr. Witt mentioned several examples in which the press showcased floodplain management and mitigation success stories. He also shared that soon the USACE will become a *Project Impact* partner.

Phil Oshida, *Environmental Protection Agency*, said he was in favor of FEMA's efforts to support local prevention planning and increased funding to *Project Impact* communities. He also suggested that more incentives and rewards be provided for local communities for flood prevention planning and mitigation activities.

Mr. Witt responded that it is very important to involve Federal partners, including EPA, USACE, the U.S. Department of Housing and Urban Development (HUD), and the U.S. Department of Transportation (DOT), in floodplain management, environmental protection, and *Project Impact*. Perhaps in the future, Congress could fund a Community Development Block Grant program for high-risk communities.

Kenneth Ford, *National Association of Homebuilders (NAHB)*, thanked Mr. Witt for the collaboration between FEMA and NAHB during the previous years, in postdisaster as well as predisaster mitigation, through the development of the model building codes. He did suggest, however, that there are still gaps in the NFIP regulations, such as crawl-space construction and the frustrating timelag in promulgating new or revised regulations for new methods of construction.

M. Rita Hollada, *Flood Insurance Producers National Committee*, opined that realtors undermine the principles of the program by promoting development in coastal barrier zones as well as widespread use of LOMRs and Letters of Map Amendment (LOMAs). She urged lenders to start adhering to redlining on coastal barrier zones.

Christopher P. Jones, *American Society of Civil Engineers*, encouraged the practice of treating coastal A zones more like V zones and less like riverine A zones.

Thomas H. Yorke, United States Geological Survey, reinforced the need for more public education on flood hazards. The Internet is a wonderful new technology for demonstrating flood zones and modeling possible scenarios.

Mr. Witt expressed his support for the use of Internet tools. He also indicated that FEMA is considering shifting the responsibility for mapping and remapping to local authorities. The maps would then be certified by FEMA. He thanked all for coming to this Forum and for their input to this process.

Statements From Participants

JoAnn Howard, Federal Insurance Administrator, Federal Emergency Management Agency

At the dawn of the 20th century the solutions to flooding were mostly structural; floods were managed by constructing dams. However, this approach, alone, pits protection of people against protection of the environment. This country now faces a shift in focus from loss-prevention activities to those that incorporate the beneficial uses of the floodplain, the renewal of land, and the stewardship of resources.

A holistic view of floodplain management preserves open spaces, provokes effective zoning and planning, and makes neighborhoods more livable. By creating an incentive to reduce flood losses, the NFIP has woven disaster resistance into community planning decisions. The Program drives community standards and can be the incentive for a new approach to floodplain management.

A new holistic approach is needed not only because the number and severity of catastrophic weather events is climbing but also because some people are asking whether the insurance safety net promotes the building of structures that are in harm's way. FEMA is about to undertake a comprehensive evaluation of this program and its impact on floodplain management in the United States. Over the next 2 to 5 years, FEMA will examine six areas:

1. How does the NFIP affect occupancy and use of floodplains?
2. What are the economic, environmental, and social costs and consequences of flooding?
3. How effectively do insurance rating and indemnity functions operate?
4. How has the NFIP influenced local decisions on floodplain management?
5. How effective are hazard identification and risk assessment systems, including the accuracy of flood maps and other risk information?
6. How effectively does the NFIP communicate with the public?

Ms. Howard indicated that she believes effective floodplain management solutions lie in marrying the desire of the public to access and live near water with the reality that degrading the

environment with uncontrolled development costs money, hurts people, and increases the incidence of destructive weather events. Floodplain management must be a partnership of government at all levels. “Washington” must lead, but the most innovative ideas are often generated at the local level.

Michael J. Armstrong, Associate Director for Mitigation, Federal Emergency Management Agency

Mr. Armstrong thanked those who came to this meeting to provide valuable input and encouragement, as they have many times in the past. The views and suggestions presented will be used not only by this administration but also by permanent FEMA staff members, who will continue the efforts into the future. He thanked David Holst of FEMA for taking the lead on the development of this Forum and the background paper.

Mr. Armstrong stated that his greatest frustration has been the failure of the Federal Government to orchestrate a common goal and that the Federal Government should be better at coordinating, sharing information, creating a unified sense of urgency, and centralizing efforts to avoid duplication. He recommended *Rising Tide: The Great Mississippi Flood of 1927 and How It Changed America*, by John M. Barry, and *Isaac’s Storm: A Man, a Time, and the Deadliest Hurricane in History*, by Erik Larson, as inspirational examples of how a Government official can make a difference in the Nation’s policies.

Mr. Armstrong stressed the importance of creating tools and incentives to encourage local and State land use laws that promote beneficial uses of floodplains. It is important to market livability and smart growth concepts. Floodplain management policy must be integrated with economic development, environmental protection, historical preservation, energy conservation, and public health and safety; sound floodplain management practices can be economically profitable. He challenged attendees to address the effectiveness of the following standards: 100-year versus 500-year flood elevations, freeboard, coastal erosion, alluvial fans, coastal flooding, and high-velocity flooding. He requested feedback about minimum standards that do not work at the local level, instilling a sense of ownership of the NFIP in local communities, promoting integration with other planning activities, marketing best practices and economic benefits, promoting partnerships, and developing maps that accurately reflect areas at risk and multiple hazards. He stressed that poor floodplain management disproportionately affects the poor; how can diversity and disenfranchisement be addressed?

Michael Moye, President, Bank of America Insurance Services and the National Lenders’ Insurance Council (representing regulated lenders)

Mr. Moye reiterated that most people will not buy insurance unless it is required by mandate. Flood insurance is for a low-probability, high-severity event, whereas fire is the opposite. He recommended that the program:

- Expand the Mandatory Purchase Requirement beyond the A and V zones.

- Strengthen the standards for LOMAs; eliminate grandfathering; consider eliminating insurance subsidies to pre-FIRM structures; and require insurance for replacement cost, not loan balance.
- Promote more State and local responsibility and accountability.

W. Craig Fugate, Bureau Chief of Preparedness and Response, Department of Community Affairs, Florida Division of Emergency Management

Mr. Fugate stated that we all need to do a better job of communicating risk. Most citizens are uninformed. The terms “100-year storm” or “500-year flood” do not adequately convey either the severity or potential of the hazard to most citizens. Education is needed to decrease public demand for floodplain development. Local authorities cannot regulate people out of hazardous areas until demand from the public, developers, and realtors subsides. There should be a special “extreme high-hazard” insurance rate for those people who continue to build or rebuild in areas that experience repetitive damage.

Michael Davis, Deputy Assistant Secretary of the Army Civil Works, U.S. Army Corps of Engineers

After thanking the organizers of this Forum and FEMA for their leadership in promoting good floodplain management, Mr. Davis reiterated the Corps’ commitment to good floodplain management policies. He listed some of the progress that has been achieved:

- The Water Resources Act of 1999 was signed and contained “Challenge 21,” which provides money for nonstructural flood-reduction projects and ecosystem restoration in the floodplain.
- FEMA and the Corps recently signed a Memorandum of Agreement (MOA) to bring together FEMA’s HMGP and the Corps’ Flood Damage Reduction Program.
- There are new policy regulations in the Clean Water Act Regulatory Program—prohibitions and substantial restrictions in nationwide permits that replace Nationwide Permit 26.
- The proposed Water Resources Development Act of 2000 would provide for the restoration of the Everglades, lower the non-Federal cost-share for structural flood protection to 50 percent, and keep nonstructural protection at 65 percent to create incentives for nonstructural alternatives.
- There is also proposed legislation requiring local communities to have better floodplain management plans to be eligible for Army Civil Works flood-reduction projects.
- The Corps supports the effort to revise Executive Order 11988 on floodplain management.

Wendy Lathrop, Technical Mapping Advisory Council

The Council is in the fifth and last year of its existence and each year has submitted to Mr. Witt an annual report with recommendations on mapping. This year the Council is considering the following issues:

- The accuracy of flood data that are available to the public, including location of the floodplain as shown on the maps; the depiction of the extent of the floodplain as determined by hydrologic and hydraulic studies; the disparity between the historic and calculated severity of flooding; variability of the floodplain due to erosion, wildfires, alluvial fans, and ice jams; as well as the cumulative effect of development in the watershed.
- Interpretation of unnumbered or approximate A zones can cause inconsistencies in land use policies and in mapping.
- Unstudied areas that are at risk but have not been studied.
- The cumulative effect on the watershed from the issuance of LOMAs.
- Public involvement needs to extend beyond education to empowerment in the decisionmaking process so that there is buy-in and a real understanding of how floodplain management decisions will affect quality of life.
- Opportunities for ongoing input to FEMA from the Council and occasions such as this Forum.

Brett Hulsey, Director, Protect Our Families From Floods Project, Sierra Club Midwest Office

Mr. Hulsey emphasized the following points:

- FEMA should update all flood maps following a disaster.
- We should protect floodplains, wetlands, and coastal areas from sprawl development through protection, regulation, and purchase. FEMA, State emergency management agencies, and local governments moved more than 17,000 homes and businesses out of the floodplains between 1988 to 1998 at a cost of \$700 million. This money could have purchased easements on 700,000 acres of wetlands.
- FEMA and State floodplain programs should review all wetland destruction permits in high-flood counties.
- Support the Wetlands Reserve Program, wildlife refuge expansion, and other habitat programs more vigorously.
- There is a need to focus effort on top flood disaster counties.

- Posting should be required on real estate signs in high-flood hazard areas.
- Make conditions for disaster assistance.
- Flood insurance should be required behind levees.
- At least 3 feet of freeboard should be required.

Frank H. Thomas, Federal Emergency Management Agency, retired

Mr. Thomas indicated that the allowance of fill in the floodplain has resulted in adverse consequences.

- Fill reallocates flood storage from the fill site to other locations in the floodplain, thereby transferring the flood hazard and altering the risk for other floodplain properties.
- The cumulative effect of fill degrades the accuracy of the flood maps.
- The Flood Insurance Fund incurs a significant loss of premiums due to LOMRs.
- Fill in the floodplain disrupts and degrades the natural and cultural resources associated with water supply quality and storage, wildlife habitat, etc.
- LOMR-Fs discourage local enforcement and undermine the fundamental NFIP statutory responsibility to reduce flood risks and losses.

Mr. Thomas recommended that the current policy to permit LOMR-Fs be reversed immediately. A policy change to terminate LOMR-Fs must assure all program constituents of fair and equitable treatment and be pursued using full due process of rulemaking.

M. Rita Hollada, Chairman, Flood Insurance Producers National Committee

Ms. Hollada pointed out that although flood damage, like fire and wind damage, is experienced throughout the country, few people insure against it. She indicated that the key to increasing the level of participation is education, simplification, and incentives. Although *Project Impact*, the CRS, and the Cover America Program have started this process, more education for homeowners and agents is needed.

Ms. Hollada suggested a shift in thinking away from the concept of “flood” to the concept of “water.” Floods are what happen along rivers and oceans. High water can happen anywhere because of poor drainage or blocked storm drains and gutters. The Nation needs a Be Flood Alert public education campaign.

Simplification is also key. The current program is too complex, maps are out of date and inaccurate, getting elevation certificates is too cumbersome, policy jargon does not parallel other insurance documents, rules are obscure, and payouts rarely cover the full amount of the loss.

They could be blended into property hazard insurance with other perils and based on sound actuarial rates.

Incentives for property owners to take an active part in flood prevention could include rating discounts and credits for mitigation efforts. Ms. Hollada urged creative thinking in meeting these challenges.

Sue Cameron, Commissioner, Tillamook County Commission, Tillamook County, Oregon

Ms. Cameron related the Tillamook County experience. She encouraged a policy shift toward more holistic floodplain management that restores wetlands and tidal sloughs, improves floodplain capacity and connectivity, and preserves wildlife habitat. She questioned the reliability of FIRM data to predict flood depths and related that they now require a 3-foot freeboard. They also have adopted a repetitive-loss provision to discourage payouts in repeated-flood-event areas.

Ms. Cameron supports:

- The current standard of 100-year (1-percent annual chance) flood, but it would be helpful to include 500-year floodplain data.
- Current conditions mapping, not future conditions mapping with more robust hydrodynamic models and alternative data sources.
- More complete mapping of coastal hazards, including the protective effects of foredunes, risk of landslides, and wave record data sources.
- Improvement in designation of floodways, especially in tidally influenced, drowned river mouths.
- Coastal mapping that includes identification of areas subject to velocity flooding and erosion and eliminating subsidies for development in high-risk areas.
- Increased funding for risk-reduction activities such as elevating and acquiring structures in high-risk areas.

Ms. Cameron does not support extending the mandatory purchase of insurance to areas outside the 100-year floodplain.

George Bernstein, Federal Emergency Management Agency, retired

Use the leverage you have to get managers planning.

Michael Ellegood, Chief Engineer and General Manager, Flood Control District of Maricopa County, Arizona

Mr. Ellegood reported as the “man in the field.” He shared the following:

- The maps are not adequate; flooding areas are not adequate measures of hazards; erosion and other factors need to be included in floodplain planning.
- Nonstructural mitigation solutions should be promoted where possible.
- Maricopa County is developing a countywide plan for all watersheds in the county. However, successful implementation of these countywide watershed plans requires FEMA’s endorsement.
- Strong public education is a major leg of the program.

He also expressed strong skepticism of changes in the Nationwide Permit 26 program; he needs to be able to get Section 404 permits in a timely fashion to maintain flood control facilities.

Phil Oshida, Deputy Director, Wetlands Division, Environmental Protection Agency

Mr. Oshida emphasized the following:

- There is a need for more Federal support and incentives to do watershed planning at the community level to address flooding, environment, and storm water issues as well as foster economic growth.
- Education and outreach should include options for structural solutions to problems and awareness of how actions in other parts of the watershed (e.g., upstream) affect the floodplain.
- Encourage Federal, tribal, and local solutions to increase flood storage.
- FEMA should offer comments on Section 404 permit applications relative to risk and flow issues. FEMA, the Corps, and EPA should develop program guidance that emphasizes the need to avoid and minimize impacts that significantly affect flood risks and floodplain hydrology.

Christopher P. Jones, Chair, Flood Committee, American Society of Civil Engineers

Mr. Jones stated that he believes the most difficult task for local authorities is to prohibit development in floodplain areas. These authorities need accurate information to accomplish this task. In response to the questions that were posed to the attendees prior to the meeting, he offered the following comments:

- In most cases the 100-year floodplain standard is appropriate, but sometimes it is not. An alternative to changing the standard is to classify structures according to their importance.
- Coastal maps currently create an illusion of safety that does not exist. These uncertainties, such as erosion rates, need to be incorporated in the maps.
- He recommended the creation of coastal A zones, which would require increased design and construction requirements to meet the different conditions.
- Regarding insurance, the current data gleaned after events, which are used to establish depth-damage curves, are unreliable or not available.
- Both A zones and V zones should require the same reference elevation (i.e., the lowest horizontal supporting member).

Dave Canaan, Director, Mecklenburg County Storm Water Services, North Carolina

Mr. Canaan expressed his concern about the way FEMA does business. Because of the scope of mapping needs and shifting priorities, FEMA will cease to be the mapping agency; that responsibility will shift to State and local agencies. As more of the local communities take control of their floodplain mapping and management, he challenged FEMA to be flexible in its policies and standards to meet the individual needs of each community. He stressed the difference between being compliant with the program and being committed to the principles.

Albert LeQuang, Manager, Insurance Standards and Disaster Mitigation, Freddie Mac

Mr. LeQuang related that Freddie Mac requires that all properties holding mortgages secured or serviced by them maintain hazard insurance against natural or humanmade perils. Freddie Mac requests that FEMA try to make flood insurance coverage perform like standard homeowner insurance coverage. For instance, the homeowner is not required to purchase more insurance than the amount of the loan; however, the flood insurance contract provided by the NFIP penalizes the homeowner for insuring for less than 80 percent of replacement cost.

Mr. LeQuang also expressed his opinion that FEMA should bring coverage up to current industry standards, including additional living expenses in the case of a claim, coverage for cooperative buildings and condominiums, limits for multifamily rental buildings, inflation guards, and zone ratings.

Ms. Howard added that the FEMA Web site (www.fema.gov) has a Call for Issues section and that, beginning June 15, will post results and responses.

William Merrell, President, H. John Heinz III Center for Science, Economics, and the Environment

Mr. Merrell indicated that the Heinz Center's recent study on coastal erosion, *Evaluation of Erosion Hazards*, will be released in a few weeks and also be available on the Center's Web site

(www.heinzcenter.org). The major findings of this study include that the risk from erosion-related damage in the V zone has been greatly underrepresented:

- About 25 percent of the homes in these areas will be lost over the next 60 years, with a loss to homeowners of about \$530 million.
- There has been a steady rise of the ocean of approximately 1.8 mm per year over the past 100 years.
- The NFIP pays most of these losses; rates will have to double to keep up.

The recommendations made by this evaluation include:

- FEMA coastal maps should include erosion hazard data.
- The costs of projected erosion losses should be calculated in the rates.

Jon Kusler, Executive Director, Association of State Wetland Managers

Mr. Kusler shared his perceptions for the future:

- If there is going to be a shift in Federal policy from managing floodplains to more than flood-loss reduction, then it needs to be more clearly stated.
- Historically, it has been difficult to map and regulate smaller streams, storm water, and other flooding areas. Perhaps the current trend toward integrated, multiobjective strategies such as buffers based on habitat, water quality, and erosion obviates the need for detailed flooding data.
- FEMA has done a good job of cooperating with other agencies, but there may be opportunities to cross-train staff that are being overlooked. This collaborative strategy might be implemented through other agencies and legislation such as the Farm Bill and Clean Water Act.

French Wetmore, President, French & Associates, Inc.

Mr. Wetmore lauded FEMA for leadership in paying attention to the people it serves. He pointed out that there are two key groups of people needing information: local officials who need one kind of information and property owners or citizens who need a different form of information. A third group of people are the professionals who use educational tools to simplify the message and bring the information to the first two groups. He acknowledged that there are new tools, but averred that face-to-face contact, in the form of Community Assistance Visits (CAVs), is most effective in assessing knowledge and information needs.

He also suggested that the CRS is misunderstood and underutilized for education; so are the field staff of Insurance Service Officers. He supported an earlier recommendation on LOMAs and LOMR-Fs; wise use of the floodplain does not include making the floodplain smaller.

He also stressed that FEMA needs to move away from the one-track mitigation emphasis on acquisition. FEMA would get more “return” for its funding by “buying” good floodplain management plans or hazard mitigation plans.

Larry Larson, Executive Director, Association of State Floodplain Managers (ASFPM)

Mr. Larson indicated that many of his comments were derived from the publication *National Flood Programs in Review—2000*, which was presented at the national ASFPM meeting in Austin in June 2000. This paper and another on the history of floodplain management will be available on the ASFPM Web site (www.floods.org). He indicated that the report focuses on two main areas:

- Changing standards with the times. The most important policy shift is to one where floodplain development causes no negative impact; all other standards changes would derive from that premise.
- Programs within FEMA, and elsewhere in the Federal Government, need to be examined and better coordinated on both the policy and staff levels.

Michael Buchert, Assistant Public Works Director, City of Tulsa

Mr. Buchert pointed out that Tulsa has a very active Project Impact and CRS program and therefore has the lowest flood insurance rate in the country. He related many of the city’s accomplishments but expressed concern that for all the mitigation actions the city has taken and standards that it has enacted and enforced, Tulsa does not get sufficient CRS point credits. He also pointed out that in a recent flood event, the city was denied Federal disaster status because it had been too successful at selling flood insurance.

Thomas H. Yorke, Chief, Office of Surface Water, U.S. Geological Survey

Mr. Yorke based his comments on the premise that if flood hazard identification can be improved, floodplain management can be more effective. The two key elements are more accurate flood information and tools to display the information to the public in an understandable way.

The USGS streamgaging network has been the basis for much of the flood information that has been used in the development of FIRMs. A recent study, *A New Evaluation of the USGS Streamgaging Network, Report to Congress 1998*, indicated that the number of communities with accurate flood information peaked in about 1950 and has been diminishing ever since. He also pointed out that the available flood data are only a fraction of the historical continuum of flooding.

USGS has recently developed a plan, *Streamflow Information for the Next Century, 1999*, for an enhanced streamgaging network that will enhance the National Weather Service (NWS) flood forecasting program. This tool will provide more accurate methods for estimating and displaying flood characteristics and changes under various conditions. The aim is to make the visual models available over the Internet and for television feed to educate the public about potential hazards and projected weather impacts in their communities.

Richard Krimm, Federal Emergency Management Agency, retired

Mr. Krimm pointed out that the original intent of the NFIP was to make flood insurance available to residents of floodplains in exchange for a community's adoption and enforcement of floodplain management practices. FIRMs are the basis of this program, and they have not changed much since their inception. FEMA, ASFPM, and the insurance industry need to make funding of the Map Modernization Program a fiscal priority. He suggested seven priorities for the program:

1. Map for ultimate development of a community or jurisdiction.
2. Change the program regulation on floodways to a zero rise instead of 1-foot rise.
3. Enlarge coastal zones to include the effects of erosion and rise of the oceans.
4. Remap the floodplain after a disaster using new technologies to prevent redevelopment of an area that will be subject to future disasters.
5. Redline the floodway and velocity zones for new and rebuilt construction and do not provide flood insurance in these areas.
6. Become more environmentally sensitive.
7. Stop using Federal money for beach nourishment, which only encourages development in hazardous areas.

Doug Plasencia, Associate, Kimley-Horn & Associates

Mr. Plasencia supported Mr. Buchert's position that the Federal Government needs to do more about supporting increased Federal cost-share for disaster assistance to local communities because of good floodplain management. He made the following suggestions for next steps to improve the NFIP:

- A national standard of no-impact floodplains will return to the community the authority and responsibility to implement sound floodplain management as well as relieve the Federal Government of the responsibility to micromanage standards best dealt with at the local level.
- Master plans will detail baseline hydraulic models and mitigation actions for each area to implement the floodplain management that is most appropriate for their jurisdictions.

- We should make use of new tools, including residual-risk flood insurance and community flood insurance policies.
- State and local capabilities should be improved, and the presence of the State National Flood Insurance Coordinators should be increased/reinstated.
- The Interagency Task Force on Floodplain Management should be reinvigorated to increase coordination.
- Effort should be made to push for the revision of Executive Order 11988.

Gilbert F. White, Professor of Geography, University of Colorado at Boulder

Dr. White expressed support for the efforts of this Forum but stressed that a full national assessment of the NFIP is needed. He indicated that there have been several very good recent studies looking at specific aspects or selected communities, but there are no solid evaluative data to make generalized statements on the effects of the NFIP.

He stressed that the program should not be limited to protection against flood risks but also should address issues contributing to sustainable development. This shift requires paying attention to the natural and productive uses of floodplains and other natural hazard areas, as well as careful attention to the whole range of natural hazards and economic and political aims.

David R. Conrad, Water Resources Specialist, National Wildlife Federation

Mr. Conrad stated his support for earlier statements about the policy shift to no-rise or no-impact floodways, nonstructural approaches, MMP improvements, future-conditions hydrology, and an all-hazards approach, as well as inclusion of dam and levee failure zones in Mandatory Purchase Requirement areas. He also encouraged sharing of the responsibility and authority with State and local authorities. He further recommended that FEMA:

- Examine floodplain policies to weed out those who fail to discourage development in floodplain areas.
- Set flood insurance rates on a sound actuarial basis by eliminating cross-subsidies within zones, phasing out pre-FIRM subsidies and grandfathering when maps are revised, eliminating subsidies for nonprimary residences, incorporating erosion risk factors, adjusting rates when conditions change, and planning for catastrophic-loss contingencies.
- Require freeboard for new construction.
- Continue education and encourage actions to protect the natural and beneficial functions of floodplains.

- Take steps to update Executive Order 11988.

Kenneth Ford, Manager for Civil Engineering, National Association of Homebuilders

Mr. Ford supported the concept of smart growth. To the NAHB, that concept means balancing the demand for housing with affordability, sustainability, and efficient land-use. He also stated his support for:

- Shifting more control over designating local floodplains to local communities.
- NFIP model building codes.
- Updating maps.
- Increasing flood resistance in existing and grandfathered buildings.
- Clarifying standards for crawl space.
- Continuing the FEMA and NAHB MOA that provides for education of members.

Jerry Uhlmann, Director, Missouri Emergency Management Agency

Mr. Uhlmann identified the following problem areas:

- Mapping gaps and inaccuracies.
- Shortage of NFIP-trained personnel and education of local floodplain managers.
- Developers who challenge and circumvent the validity of zones.
- Need to adopt actuarial rates on repeated claims and pre-FIRM structures.
- Requiring all NFIP communities to have comprehensive mitigation plans.
- Small Business Association (SBA) assistance loans that are not available to residents in nonparticipating communities, although public assistance is.
- No sanctions for nonparticipating communities, only for individual citizens in those communities; need for flood assistance that is based on whether the homeowner has flood insurance in place and has demonstrated mitigation actions.
- The Community Assistance Program, which needs to be revisited because it is replacing State capabilities.

- Reinstating CAVs to identify problem areas and make recommendations on actions that can be taken.
- Need for the insurance industry to promote purchase of flood insurance: Only 10 percent of the people who should buy noncoastal flood insurance do so; many policies not renewed at end of term.

John R. Sheaffer, Chairman, Sheaffer International, L.L.C.

Mr. Sheaffer presented the following points:

- Rainfall occurs on all land in a watershed. The people with high ground and runoff get a “free dump” of their share of the water to those on the floodplain. Everyone, including governments, should pay for flooding (or water storage) on the floodplain.
- Floodplain management costs (cost of flood disasters as well as corrective measures) should be shared by all who benefit from it.
- The rest of the floodplain should be incorporated in sustainable benefits.
- Repetitive loss should apply to public facilities (infrastructure) as well as to homeowners.

Ed Copeland, Region II Planning and Development Council

Mr. Copeland explained that NADO members, known variously as councils of government, economic development districts, planning and development districts, or regional councils, provide professional and technical assistance to more than 1,800 counties and 15,000 cities and small towns. They are directed by elected officials from counties and communities. Most of these members, including all 55 counties and 98 percent of the communities in West Virginia, are participating members in the NFIP.

Local officials are key to compliance and enforcement of the NFIP. He urged FEMA to work with these organizations. They are proactive, have existing working relationships with local officials, can leverage funding resources, and provide technical assistance. These communities want to develop geographical information system (GIS) mapping products in their communities by leveraging funding. The regional councils are an excellent vehicle to empower the local communities.

James Sadler, Vice President, National Con-Serv, Inc. (NCSI)

Mr. Sadler explained that NCSI is the NFIP servicing agent managing the direct insurance program for the FIA. He supported changes to the 100-year floodplain standard. He indicated that the mapping processes are antiquated and underfunded.

Insurance is purchased because homeowners are required to do so or because they recognize the risks of not doing so; insurance transfers the risk. Purchase of hazard insurance is required and

has become institutionalized by mortgage lenders. However, the purchase of flood insurance has not become institutionalized. Expanding the Mandatory Purchase Requirement to all zones within a participating community would make the decision easier and begin to institutionalize the process. He added the following points:

- Flooding hazards must be identified correctly on maps.
- There should be premium or rate equity with actuarially adjusted rates on repetitive losses without intervening mitigation actions.

Tim Searchinger, Senior Attorney, Environmental Defense

Mr. Searchinger stressed the importance of finding incentives for local governments to implement good floodplain management. He suggested the following:

- FEMA should require insurance for public facilities (buildings and infrastructure) in order to be eligible for disaster assistance.
- One of the goals of mitigation projects should include environmental restoration coordinated with the Department of Agriculture and USACE.
- There should be priorities developed for the use of Federal structural flood control funds.
- There is a proposed executive directive that would require coordination in floodplain and wetland planning policy across Federal agencies. This directive should be supported.

Facilitated Discussion: Mapping

Mr. Armstrong introduced this roundtable discussion by listing some of the issues that were mentioned earlier today and required more discussion:

- Toughen LOMR standards and eliminate subsidies and grandfathering.
- 100-year and 500-year floodplain standards are meaningless; what would be meaningful?
- Base the maps on future growth.
- “LOMRs are a cancer”; how does one make this practical given economic realities?
- Demonstration projects on GIS for mapping; are studies the real issue?
- FEMA letter of endorsement as a counterpoint to taking maps out of context.
- Classifying structures according to their importance.
- Coastal A zones.

- Moving from mapping to meeting community needs.
- Utilizing buffers to obviate the need for specific data.
- How to move quickly and effectively into use of new types of data (LIDAR).
- Change regulations on floodways to zero rise, enlarge velocity zones, and acknowledge erosion.
- Pre-FIRM structures problem.
- What can the private sector provide?

In response, *Mr. Moye* quoted from *Paying the Price: The Status and Role of Insurance Against Natural Disasters in the United States*: “Requests for Letters of Map Change (LOMCs) have steadily increased over the past five years... Because the primary purpose for requesting a LOMC is to excuse the owner from purchasing flood insurance, the entire LOMC process represents a rather short-sighted attitude toward the value of insurance as well as an under-appreciation of the flood peril.” To support FEMA in this political battle, *Mr. Moye* suggested to other members of the Forum that the organizations that agree on certain standards or policy modifications should jointly make that agreement known to those on “the Hill.” Regarding grandfathering, he indicated that he believes that insurance companies should rate the risk of flooding just as they do for fire and other types of hazard insurance.

Mr. Hulsey emphasized that the maps are old. Perhaps remapping should be required as the first step in the recovery or mitigation process. Even a flyover map of flooded areas could aid in demonstrating the risk to the public.

Mr. Armstrong responded that FEMA has started on several related activities:

- Creating disaster recovery maps
- Proposing funding in the FY 2001 DRF budget for FIRMs
- Creating a sustainability/livability technical assistance desk in the Disaster Field Office

Lisa Holland, NFIP State Coordinator, South Carolina Department of Natural Resources, queried whether as many people would request waivers to purchase flood insurance through LOMAs if they were also waiving the right to disaster assistance. Federal agencies need to work together to develop incentives for States and communities to assume ownership and responsibility for flooding hazards within their States.

Mr. Ford pointed out that there are other natural hazards such as wind, seismic activity, and ice, each of which requires different and maybe conflicting building codes. It is virtually impossible to create an affordable, risk-free building. Builders aim for reduction of risks in a cost-effective manner. Policymakers need to consider private-sector realities in their deliberations.

Mr. Plasencia addressed the issue of funding. To date, mapping has been paid for out of a surcharge on flood insurance. Instead, he suggested that mapping costs incurred by a local community could be “banked” as a cost-share payment on future disaster assistance.

Ms. Howard challenged the attendees to respond to the proposal to have the Federal Government LIDAR the entire country over the next 3 years and establish an agent database of this base-map information. The Federal Government could reappropriate the \$80 million FEMA budget to the communities to be used for studies that would add hazards and other data to these maps.

Mr. Larson responded that the goal of the NFIP is to identify zones and set insurance rates. A LIDAR map alone is not accurate enough to regulate property and rates.

Mr. Michael Buckley, FEMA, indicated that although it might be a good place to start, the most expensive part of mapping is the field study.

Mr. Armstrong added that FEMA is required to certify an unnamed product to set insurance rates; they are not obligated to develop that product. By providing some of the base data, FEMA hopes to assist and cost-share in the process of floodplain hazard/risk identification.

Mr. Kusler indicated that not all maps require a great deal of detail unless someone is planning to do something in that area. He suggested that the money might be better spent by taking more factors into consideration in high-need areas. He further suggested that buffer zones can help identify the floodplain in places where expensive engineering is not necessary or feasible.

Mr. Ellegood offered that although FIRMs are good, they could be better if they included hazard information such as erosion setbacks. He further advocated that everyone, not just those in flood zones, should have flood hazard insurance just as they have fire hazard insurance.

In response to Ms. Howard’s proposal for LIDAR mapping, *Mr. ??* indicated that he felt it would be a good incentive and starting point for the communities, but policy still needs to be decided on how the floodplain is going to be represented on the map; no one knows how to put a future floodplain on a map, and the Web site does not help. A mapping effort should be the starting point for a hazard mitigation planning effort.

Mr. Sheaffer pointed out a conflict in the messages: On the one hand, there is a trend to map on full development, which would lead to higher flood levels. However, some new development, which is based on sustainability, might be storing its own water and not causing any increase in storm runoff.

Facilitated Discussion: Insurance

Ms. Howard started this part of the forum by reiterating some of the topics she had heard:

- Mandatory purchase should be expanded to areas outside the 100-year floodplain.
- Flood risk information is not clear, nor is it adequately conveyed clearly to local officials.

- Risk information is not easily accessible.
- Insurance agents want simpler products, information, and access.
- Insurers should get rate modifications that are based on repeated loss or mitigation steps.
- Scheduling buildings in communities would eliminate the need for individual elevation certificates.
- More information is needed for better decisions and changes in policy.
- Erosion rates need to be included in setting insurance rates.
- There is not enough participation. It needs to be easier for insurance agents to write policies.
- There is a land use mechanism in this country through flood insurance.
- Redline in floodways.
- Are we moving in the right direction with flood insurance?

Mr. Hulsey reiterated that the public needs more readily available information and education about flood risks. At present, it is almost an afterthought at the time of settlement. One possibility would be putting National Wildlife Federation's repetitive-loss database on the Internet.

Ms. Hollada reinforced the earlier suggestions that everyone should have flood insurance and that it should be part of an all-perils property policy funded by the insurance industry, not through the NFIP. She further indicated that there will probably always be a need for a disaster program, but more floodplain management should happen at the local level.

Mr. Ford suggested an incentive program such as a flood mitigation, tax credit program similar to energy tax incentives.

Ms. Howard added that they had considered another incentive program aimed to obtain near 100 percent compliance for banks.

Mr. Armstrong added insurance credits for mitigation efforts (e.g., shutters, seismic strengthening) similar to credits for clean driving records and smoke alarms.

Ms. Cameron stated that educational efforts are more productive when directed to the public rather than to public officials and that a term other than "100-year floodplain" needs to be developed.

Mr. Conrad indicated that although he understands the insurance industry's need to be able to craft a policy easily, he feels that ratings themselves can convey a sense of risk.

Mr. Howard Leikin, Deputy Administrator, FIA, indicated that the new Heinz report might offer justification for modifying policy and rating schemes to incorporate erosion data in V zones.

Mr. Wetmore indicated that the term “100-year floodplain” must be recrafted to convey a sense of risk to the layperson, especially in light of 100-year floods happening every few years. He reinforced Mr. Kusler’s idea about a holistic, conceptual approach to floodplain management rather than defining standards in detail.

Mr. LeQuang stated that recently he has been involved in trying to clarify the rating of a specific property. He was concerned when told by FIA personnel “not to worry about it, because it will all be resolved at the time of claim.” He also pointed out that the NFIP is inequitable because it only applies to those properties with mortgages held by federally regulated lenders. He further suggested that, structurally within FEMA, the recovery and insurance functions should not be under the same umbrella. Mr. LeQuang restated the recommendation that the basic NFIP policy needs to be amended to perform like other homeowner coverage: contain replacement coverage, eliminate the need for a coinsurance penalty, provide for additional living expenses, and provide for an automatic inflation escalator.

Mr. Larson spoke about clarifying risk terminology: “One-percent risk” is better than “100-year floodplain,” but “high” or “moderate” is more common terminology. He also addressed mapping accuracy: FEMA needs to map only to regulate for the flood hazard, but individual communities can map for many more things to help them manage their watershed. He recommended that FEMA give communities not only minimum standards to meet but also incentives for doing more.

Mr. Searchinger stated his belief that the 100-year flood map creates a false precision that is not accurate for all the reasons that have been mentioned. He suggested that the rationale for changing the regulation might be that FEMA needs to be able to defend a regulatory “line” that does not in turn quantify the risk inaccurately.

Mr. Ellegood related that in Arizona, education and outreach are one third of the program. He suggested several activities that they have used in public education: listing flood zones on real estate property settlement sheets, erecting a booth at trade shows with aerial photographs and interactive map overlays, placing these same tools on the Internet, enclosing flyers in water bills, and educating children through schools and Scouts.

Facilitated Discussion: Floodplain Management

Mr. Armstrong introduced this discussion by listing some of the issues that were mentioned earlier today and required more discussion:

- More State and local responsibility for initiative, financial, political, legislation, and codes, building on Federal resources.
- Incentives/disincentives; financial, regulatory, or punitive.

- Partnership opportunities with other Federal agencies and programs (e.g., USACE, Challenge 21, WRTA, Wetlands Permit, EPA, USGS).
- Watershed wide planning and a multiple hazards approach, including levee and dam failures, in floodplain management.
- User-friendly terminology.
- Multihazards approach (HAZUS will be adding a flood section).
- “Change the image of flood to the image of water.”
- HUD should be at this table and its agenda on affordable and nondiscriminatory housing should apply to disaster resistance as well.
- Reasonable flood control and keeping the overarching goal of risk reduction in mind.
- Everyone needs to take responsibility for storage of water; new development can be constructed where water can be stored; how do we market this or expound on good practices?
- “Create commitment, not just compliance.”
- Natural and beneficial uses of the floodplain and reaching other audiences.
- Public education.
- “Back to basics.”
- CAVs: How do we target them to the most appropriate and productive situations?
- Overemphasizing acquisition to the point of ignoring other opportunities for leveraging good floodplain management practices.
- Not enough CRS credits for super good programs.
- Redlining criteria; stop beach nourishment programs.
- Cost-share for locals; does this mean the formula needs to be reassessed?
- Is “risk protection” the right underlying message?
- Smart growth.

Mr. Davis requested feedback on the Corps' 1996 proposed legislation that required local authorities in Federal flood damage reduction projects to prepare a floodplain management plan as a condition of the 65-percent Federal share. Should this be strengthened?

Ms. Cameron responded that if a comprehensive plan is required, it should be integrated with other related comprehensive planning efforts.

Mr. Ellegood agreed and added that it should be done locally and in accordance with a set of standards; it should be peer-reviewed and when approved, receive a Federal imprimatur that can be used with authority. He also requested the ability to augment USACE personnel to speed up the workload.

Mr. Davis thanked them for their comments and acknowledged that USACE has been operating under funding and staffing constraints; however, he was not sure whether supplementing Federal staff is feasible.

Mr. Hulsey suggested that developers be charged a fee that could be cycled back into the USACE program to finance local personnel. He also recommended that Challenge 21 be considered a watershed management issue rather than a floodplain management issue.

Mr. Davis agreed that Challenge 21 is a watershed-based approach that crosses many Federal, State, and tribal agencies' activities. The Water Resources Development Act of 1999 will allow the Corps to do watershed-level analysis.

Mr. Buchert expressed concern about the Federal Government planning for the whole watershed and possibly circumventing local planning processes, autonomy, and financial control.

Mr. Wetmore also expressed concern about disconnects and inconsistencies in guidelines regarding local planning across FEMA and other Federal agencies (e.g., USACE) programs.

Mr. Plasencia remarked that implementing a sliding cost-share policy on disaster assistance would encourage/reward good State and local floodplain management. He also indicated alarm about some of the mapping suggestions he had heard today. He believes that the program, the way it is currently designed, still needs to require detailed maps.

Dr. White asked *Mr. Davis* to comment on the extent to which he thinks the major Federal agencies, which are involved with public works, environment management, and flood mitigation, can work together on watershed planning and floodplain management.

Mr. Davis responded that the Government is committed to move in that direction, but it will take some clear successes to speed the process up.

Ms. Lathrop expanded on specific areas for improvement:

- There should be consistency of terminology within regulations.

- CRS credits should be given for enforcing, not just having, local ordinances.
- Floodplain management should not just be about flood insurance but also about managing natural resources.

Mr. Sheaffer pointed out that economic analyses for rate establishment need to include benefits to the natural resources.

Mr. Oshida supported Dr. White's comments on watershed planning; there needs to be more integration among Federal agencies to do watershed-level planning and education.

Mr. Ellegood urged caution in mixing environmental and public safety issues in the same program. The motivation for the policy and the mission of the regulating agency must be clear to all concerned.

Mr. Hulsey countered that constituency groups also have mixed needs and that combined voices send a stronger message than single-issue voices. He also pointed out that important water management agencies were not represented at this Forum: National Resource Conservation Service, especially the Emergency Watershed Protection Program, and the U.S. Fish and Wildlife Service.

Mr. Kusler agreed that collecting better community-based water and related risk information is very important and that FEMA is the leader in this field. Communities and developers need to be provided with incentives to do more detailed studies.

Ms. Cameron said that integrated planning and implementation are very hard to do, but gathering many more stakeholders around the table ultimately leads to a better situation. It is impossible to manage one aspect of a watershed without affecting other aspects. She also stated that the reconnaissance and feasibility studies done for the Corps, which required congressional approval for implementation, was the most difficult and time-consuming process ever experienced.

Wrap-Up

Mr. Armstrong thanked everyone for coming and participating in this Forum and for having the courage to say what has been said. He praised the entire community in moving forward on the education of citizens on the messages of risk reduction, prevention and mitigation, and floodplain management. Mr. Witt wants to leave a forward-moving governance legacy for future administrations.

Mr. Armstrong outlined some of the key themes that he had heard:

A. Mapping

- The 100-year floodplain standard needs to be revised.
- Other threats, such as levee failure, should be incorporated.
- Adjustments should be made for anticipated maximum future growth.

- Maps are tools to help local authorities with floodplain management.

B. Insurance

- Greater incentives are needed for agents to promote flood insurance.
- The process needs to be simplified.
- Maps may not be the answer for the insurance industry.
- Insurance should be expanded to include public facilities (building and infrastructure structures).

C. Floodplain Management

- Give State and local governments more ownership and accountability.
- Expand the concept of management beyond the floodplain to the watershed and water management.
- There should be disincentives to develop and incentives for planning.
- Planning should be a requirement or “ticket” to grant dollars.
- Planning should be a holistic approach across all Federal agency boundaries.

Mr. Armstrong also summarized actions or accomplishments he would like to see:

- Executive orders that require Federal-level consolidation and coordination of data collection, planning, and environmental assessments.
- Flood studies in 2010: What will they look like? Will they be maps or a database? What new technologies will be available? What will be the cost-share?
- An all-hazards map that includes water, wind, and seismic risks.
- Using HAZUS to objectively rank and rate communities and States on the basis of vulnerability and risk; these ratings in turn drive budget priorities and trigger and filter the awarding of Federal grants.
- Greater integration and acceptance by the emergency management and environmental communities of floodplain management, mitigation, and prevention as coequals to the other communities.

Mr. Armstrong reiterated his thanks and hope that this discussion helps reinforce many issues that have been talked about before and motivate many to support positions and actions FEMA may take in the future.

NOTE: The minutes from the Floodplain Management Forum were generated from a recording of the Forum. We made a concerted effort to correctly capture each participant's statement and the discussion. We apologize for any misinterpretation, errors, or omissions in these minutes.